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APPENDICES

Appendix 1: Methyl content measurements by FTIR

Resin	Thickness (mm)	Absorbance A_{1378}	Absortivity (K_{1378})	CH_3/ 1000C	Mean	S.D.
A	0.042	0.096	2.498	19.11	19.45	0.536
	0.065	0.149	2.505	19.17		
	0.15	0.36	2.623	20.07		
B	0.04	0.105	2.869	21.95	22.40	0.434
	0.06	0.161	2.933	22.43		
	0.14	0.382	2.982	22.81		
C	0.032	0.094	3.203	24.51	23.75	1.266
	0.07	0.187	2.913	22.29		
	0.13	0.381	3.196	24.45		

Appendix 2: Data for rheological properties by capillary rheometer.

Run	Shear Rate (1/sec)	Shear Stress (kg/m2)			Apparent Viscosity (Pa.sec)		
		A	B	C	A	B	C
1	10.02	1450	1360	2620	1420	1340	2560
2	108.3	8600	8940	9650	779	809	874
3	216.6	11600	11900	12600	525	540	571
4	324.8	13600	13900	14700	410	419	445
5	433.1	15200	15500	16000	343	351	363
6	541.4	16600	16800	17300	301	304	313
7	649.6	17800	17800	18400	269	268	277
8	757.9	18800	18800	19200	243	243	248
9	866.2	19700	19700	19900	223	223	226
10	996.1	20600	20600	20900	203	203	206

Appendix 3: WAXD data for hot pressed films from resins, blown films and extractable fractions.

Sample		Peak No	2 theta	FWHM	d-value	Intensity	I/I_0
Blown films	A	1	21.48	0.729	4.133	15032	100
		2	23.78	0.753	2.478	2945	20
		3	36.22		2.041	2198	15
	B	1	21.4	0.753	4.148	8381	100
		2	23.6		3.766	1876	22
		3	36.18		2.4807	1437	17
	C	1	21.22	0.776	4.1835	9114	100
		2	23.38		3.8017	2175	24
		3	36.0	0.682	2.4927	2380	26
Extractables	A	1	14.08	0.471	6.2848	3750	22
		2	17.02	0.518	5.2052	5013	30
		3	21.76	0.447	4.0809	17442	100
		4	23.98	0.706	3.7079	4646	28
	B	1	21.18	0.729	4.1913	5940	100
		2	23.46	0.800	3.7889	3084	52
	C	1	21.38	1.294	4.1526	2734	100
		2	23.64	1.341	3.7604	1058	40

Appendix 4: Tensile properties testing for film A.

Film A	Thickness (mm)	Load (N)	Tensile (MPA)	Elongation at break(mm)	Elongation at break (%)
MD	0.55	22.88	20.8	244	488
	0.55	20.93	19.03	214	428
	0.57	26.15	22.94	278	556
	0.57	21.64	18.98	220	440
	0.57	23.11	20.27	263	526
		Mean	**20.4**		**487.6**
		S.D.	**1.62**		**54.71**
TD	0.51	10.66	10.45	280	560
	0.51	10.66	10.45	220	440
	0.51	11.43	11.21	200	400
	0.51	11.35	11.13	343	686
	0.51	8.18	8.02	395	790
		Mean	**10.3**		**575.2**
		S.D.	**1.30**		**164.03**

Appendix 5: Tensile properties testing for film B.

Film B	Thickness (mm)	Load (N)	Tensile (MPA)	Elongation at break(mm)	Elongation at break (%)
MD	0.53	22.07	20.82	222	444
	0.52	20.52	19.73	233	466
	0.54	20.07	18.58	252	504
	0.52	23.23	22.34	189	378
	0.53	20.81	19.63	253	506
		Mean	**20.2**		**459.6**
		S.D.	**1.42**		**52.60**
TD	0.52	11.16	10.73	149	298
	0.53	11.43	10.78	350	700
	0.5	11.74	11.74	241	482
	0.5	11.41	11.41	299	598
	0.52	11.1	10.67	292	584
		Mean	**11.1**		**532.4**
		S.D.	**0.48**		**152.10**

Appendix 6: Tensile properties testing for film C.

Film C	Thickness (mm)	Load (N)	Tensile (MPA)	Elongation at break(mm)	Elongation at break (%)
MD	0.48	26.53	27.64	203	406
	0.53	23.79	22.44	177	354
	0.37	18.91	25.55	131	262
	0.72	31.04	21.56	196	392
	0.41	26.44	32.24	107	214
		Mean	**25.9**		**325.6**
		S.D.	**4.31**		**83.93**
TD	0.45	10.95	12.17	182	364
	0.5	10.87	10.87	235	470
	0.5	10.25	10.25	146	292
	0.45	9.98	11.09	205	410
	0.5	10.98	10.98	171	342
		Mean	**11.1**		**375.6**
		S.D.	**0.69**		**67.73**

Appendix 7: Thermal shrinkage data of the blown film in MD.

The original length is 50mm for all specimen. % shrinkage are calculated as :
% shrinkage = (shrinkage length/original length)*100

Film	Shrinkage length (mm)	% shrinkage	Mean	S.D.
A	9.2	18.4	18.16	0.385
	9.0	18		
	8.8	17.6		
	9.1	18.2		
	9.3	18.6		
B	18	36	36.4	2.074
	17.5	35		
	20.0	40		
	18	36		
	17.5	35		
C	21	42	43.6	2.074
	22	44		
	20.5	41		
	23	46		
	22.5	45		

Appendix 8: Tear resistance data of the blown films.

Film	Machine Direction			Transverse Direction		
	Force(mN)	Mean	STDEV	Force(mN)	Mean	S.D.
A	4800	4704	350.5	6080	6432	286.2
	4160			6720		
	4800			6720		
	4640			6240		
	5120			6400		
B	1600	1728	208.6	1920	2304	242.7
	1920			2560		
	1920			2240		
	1760			2400		
	1440			2400		
C	1120	960	196	1920	2448	346.9
	1200			2720		
	880			2400		
	880			2400		
	720			2800		

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